Sharing the Vision

Wichita

The Water Garden Society of Kansas shares visions of water in the garden.

Text and Photos by Helen Nash

Dave and Claudia Peebler met me at the airport on a sweltering summer day, Claudia having recently learned it is no longer safe to leave Dave alone for even a couple days. Away at a teachers’ conference, she had unsuspectingly left him alone to mull over where he could fit in just one more pond. It’s not like they had only a small tub garden. Lushly planted koi and water garden ponds fill their backyard with inviting decks allowing up close and personal enjoyment. As near as we can figure, Claudia couldn’t have been as far away as the corner when the construction crew showed up. Upon her return, she drove right by her house, not recognizing it! Dave had surprised her with a good-sized, fully mulched and landscaped pond tucked among the trees immediately in front of the house...and he even included a bench to support his shocked wife.

Those of you who have already sampled the joys of water in the garden know too well the progressive stages of ponditis — digging the hole of commitment, advancing to passion, and finally evolving into full-blown obsession...and digging more holes. The members of the Water Garden Society of Kansas share their obsession with each other throughout the year, and once a year with the public. Their 4th annual tour was held June 21 and 22, 1997, with 25 gardens opened to the world. Their president, Dave Peebler, explained in the program guide: “As you view each garden, you see that their ideas and purposes may differ, but each has a way of displaying a mood, a feeling, a space and a way of sharing with nature all things natural and beautiful — the combining of water, stone, wood, plants, and animals into something to be enjoyed. Come enjoy with each gardener the wonders of their ideas and their labors of love.”

Rex and Mary Jane Duncan

In a rural setting with a large yard, Rex and Mary Jane have carved out two ponds. A small pond edged with brick and accented with a small spouting frog is home to brightly colored comet goldfish. Flowering perennials frame the charming pond with vines trained against the house behind. Three dogs, including a ball-loving yellow lab, enjoy their own fenced area. Mary Jane’s stained glass concrete stepping stones, bejeweled with dragonflies, prove enchanting surprises next to the garden path that crosses a cobbled, dry creek bed. On one side of the natural wood bridge (perfect for kitty sun-baths) is a bog garden filled with moisture loving aquatic and semi-aquatic plants. The largest pond nestles against a wooded area with a small waterfall returning the recycled water from the filter unit tucked into the shrubbery. Lazily swimming among the water lilies and other aquatics are more comet goldfish and both regular and butterfly koi. Crystal clear water allows the fullest appreciation of the fish.

Mark Moore’s trademarks of design — lush woodland plantings, rocks, ground cover, and driftwood

Mark and Lalana Moore

Mark and Lalana Moore’s extensive outlay of ponds is also known as Scenic Landscapes Nursery. A virtual woodland wonderland, the property is an Eden of meandering streams, ten ponds, and an incredible mill house and water wheel serving a large pond and stream. It is no matter of curiosi ty that Mark specializes in designing natural woodland gardens...complete with tranquil waters. Lalana’s own special creativity emerges unexpectedly in unique ‘container’ gardens — a wheelbarrow and an old wringer washing machine!
Ken and Sue Hevener

Ken and Sue Hevener had their pond professionally built four years ago. Set in a corner of the small, fenced yard, the 1200 gallon pond is approximately 5 feet deep, perfect for koi and safe wintering of the pond inhabitants. Perimeter shelves allow for potted marginal aquatics. The four-foot-tall waterfall is balanced by profuse plantings between it and the fence with the flowing water audible from all parts of their yard. A year after building the pond, the Heveners installed a combination filter/skimmer to greatly reduce pond maintenance. The following year, they added a room addition with a wrap around deck so that the pond could be enjoyed year-round. Extensive landscaping with both sun and shade gardens complements the water garden.

Bill and Joyce Heller

Bill and Joyce Heller took advantage of a sloped yard to terrace it into landscaped features incorporating a winding stream and two ponds. The larger reservoir pond is at the bottom of the stream with the water recycled up to the smaller top pond. Water enters a whiskey barrel planter filled with water clarifying plants by way of a plumbed, old-fashioned hand pump. The stream meanders around from the side of the house to the larger pond in the backyard. A small flat rock forms a stepping bridge over the stream. Overlooking the ponds and gardens, a sun room and small deck invite friends and family to enjoy the haven beneath the shady trees.

(above) The Hellers’ pond receives enough sunlight during the day to allow growing water lilies.

(immediate right) The waterfall fit naturally into the slope of the yard.

(far right) A wagon wheel leans against the fence behind the handpump and vegetable filter outlet of the recycling pond water at the side of the Hellers’ home.

(above) The skimmer filtration system is buried adjacent to the pond. Removing a slab rock reveals the water’s entry by a weir into the system.

(left) The four-foot-high waterfall allows the peaceful sound of water to be heard throughout the yard. Ground covers and specimen plantings accent and soften the pond’s edge.
Il Sik and Debbie Hong

Il Sik offered a double treat on the pond and garden tour: his home and his nursery, Hong’s Landscape. At the nursery, both small ponds and a very large earth pond offer ideas of plants, construction, and landscaping. At the Hongs’ home, oriental-flavored landscaping combines with the delightful color and form of perennials and specimen flowering plants. The sparkling clear koi pond sits just off a deck equipped with a glass-topped table supported by ornate metal sculpted koi. A small stream recycles water from an upper, vegetative filter pond tucked into the landscaping up ground from the pond. Within the pond, Il Sik has constructed a bottom drain and a side skimmer that work in tandem with a bio-filtration system to keep the water healthy and clear for the more than 50 koi that range from 3 inches to two feet long. Elegant sculptures used around the pond landscaping hint at a touch of humor upon closer inspection — two herons are actually involved in an altercation with a frog! Il Sik has combined specimen plantings, the year-round form and structure of evergreens, and textures of smooth, rounded black stone and wood.

Ron and Terry Butts

Ron and Terry Butts must enjoy waterside living! Their 6500 gallon, 12 x 30 foot koi pond is immediately accessible from the house by a railed deck, perfect for leaning onto and enjoying the koi. What had been a flat backyard acquired a considerable mound of topsoil from the excavation — perfect for creating a raised planting area. Water recycles from the large pond into an upper bowl from where it diverts into two streams naturally landscaped in the higher ground: A blue spruce poises between the two streams. Two different waterfalls create aeration of the water along with the water’s audible flow. Behind the elevation, railroad ties lend support and structure, and a dry, pebbled stream bed serves for runoff when necessary. Perimeter landscaped beds naturalize the setting and camouflage the fence separating their yard from their neighbors'.
Bill McCabe

Bill McCabe was my personal ‘tour director’ of the ponds of Wichita. In spite of temperatures in the high nineties, he kept smiling as he wiped his forehead, chugged iced tea, and muttered to himself, “We’ll see all 25 in one day!” Although his pond wasn’t really on the tour, I did enjoy that visit, too. Bill has had his koi pond for many years — long before rubber liners were commonly available. He built his pond of wood, treating it to hold water. Although he’s since ‘remodeled’ it, the basic structure remains with handy benches around for close-up enjoyment of the koi. The filtration system is tucked away in a matching wooden structure equipped with a sound system for playing music or frog sounds. The McCabes’ yard is a gardener’s delight, too. Brick-edged pathways wander around planted beds that invite birds and butterflies. Then there’s that swimming pool....Bill’s wife says, “No way,” but Bill’s eyes glaze over as he imagines the pond it could be!

Bill and Pat Butterworth

Bill and Pat Butterworth show how much creativity can go into one small yard. From the side of the corner lot, you enter a ‘seaside garden’ with small container gardens (both water and terrestrial), seashells, and netting. What could have been but a narrow path around the house to the front yard has been turned into a ‘Western trail’ with curios, plants, and true Western ambience. Entering the front yard from the trail, an ‘Oriental’ garden is highlighted with a 900 gallon pond, fully equipped with a waterfall and a bog. Sparkling water, water lilies, and colorful fish delight the eye. Behind the Oriental garden is an ‘English’ garden of classic perennial beds and a vining arbor. So many wonderful ideas in so little space!
How to attract these delightful denizens to your backyard....and keep them around.

The pond is installed and full of water. The plants have been placed, the stones set, and the new fish are frantically trying to find a hiding place from which to peer out at their new home. What next? The plants will take some time to grow and fill in the pots and banks, and the fish will need a little coaxing before they swim up to take food from your hand. But nature has just found a new wetland to colonize and has already started to work. For most pond owners, attracting wildlife is one of the main reasons the pond was built. Some wild creatures will take longer than others to appear, but the insects will begin arriving the same day the pond is filled. Midges, water boatmen, and damselflies are quite visible and excite the attention of even the smallest child. That is one group of insects, however, that are quite visible and excite the attention of even the smallest child. These, of course, are the dragonflies - the air superiority fighters of the insect world.

Some basic information about dragonflies

Dragonflies and damselflies are cosmopolitan in distribution and are fixtures at nearly every fresh water pond, stream, or lake. The dragonfly family (the scientific name is Odonata) is composed of two subgroups - the dragonflies proper (Anisoptera) and the damselflies (Zygoptera). In the United States, there are just over 300 species of dragonflies and about 160 species of damselflies. The two can be told apart by the bar shaped head with eyes covering the ends. Another significant difference between the two groups is flight capability. Dragonflies dart, wheel, hover, and streak effortlessly through the air. In fact, it is often difficult to get a good look at a dragonfly. Damselflies are weaker flyers and spend much of their time at rest on a twig or leaf. They are easier to approach and unlike dragonflies, is well known to anyone who has spent much time watching them. The compound eyes of some species, such as the darners (family Aeshnidae) cover most of the head. The compound eyes are aggregates of simple eyes, each facet being called an ommatidium. Some of the ommatidia are smaller and more dense in certain regions of the eye, usually on top, allowing for a more refined field of view. This is important in the 360° world of the flying insect where both death and prey can come from any direction. A better view from the top of the head ostensibly would allow for a better chance of avoiding predators such as martins and fly-catchers swooping down from above.

All of the Odonata are egg layers. The skimmer family of dragonflies (family Libellulidae) lay eggs by dipping the abdomen into the pond and releasing clusters of eggs. This can be done while hovering or while racing across the surface of the pond. The darners normally cut a slit in a plant stem, such as a cattail, and embed the eggs in the plant tissue for protection. This seldom hurts the plant, but there are instances reported where plants have been damaged or killed by ovipositing dragonflies. This is an uncommon circumstance in nature and likely to be seen more rarely in the home pond. Damselflies usually oviposit in a similar manner as the dragonflies, although some may fully submerge themselves to reach an oviposition site. The nymph that hatch-
The dragonfly is completely helpless as the adult breaks through the skin of its nymphal casing. The wings are curled and useless, having been folded inside the skin of the nymph. But once free they begin to expand. This is a critical process. If the wings do not expand quickly enough or there is not enough moisture to keep them soft, they begin to dry before fully expanding and the dragonfly is lost to the first predator that happens upon it. If the water quality in which the nymph grew was poor, or if its diet was deficient, the dragonfly will not develop properly and often dies during this transitional stage of its life.

If all goes well, however, the dragonfly can take wing on its first morning. It may not fly far, depending on the weather. It is not unusual to walk around a pond on a spring or summer morning and have dozens of new dragonflies and damselflies flush from the vegetation to dozens of new dragonflies and damselflies. The newborn dragonflies and damselflies will prowl in the woods, but when it comes time to feed, find a mate or lay eggs, they prefer to have a sunny, open spot in which to do so. Most species will not stay at a heavily wooded pond. However, having heavy woods near the pond is beneficial, it is in the shade or storm shelter, a hiding place for many species that fly only at dawn or dusk (many of the clubtails, family Gomphidae), or females that want to recover from ovipositing. Male dragonflies will patrol a pond and try to mate with any female they encounter. When females are near a pond, they spend much of their time either avoiding males or laying eggs, often with their heads down in their perch, and even still attached behind their heads. Few males have how ever, will pursue the female away from the pond into a wooded or shaded area and lose their patrol station to a competitor. Damselflies are less picky when it comes to having a shaded area. Still, more prefer to have at least part of the pond in a sunny area.

Another attraction to dragonflies is the size of the pond. The larger the pond, the more species it is likely to hold and support. However, if properly planted, even the smallest of ponds will maintain a dragonfly population. A research study in progress has so far shown that at least one species of dragonfly, the wandering glider, will lay eggs in pools as small as 2 feet square. However, none of the nymphs were found in ponds planted with cattail, which grew over five feet tall, than in ponds planted with a small sedge that grew no larger than one foot from the surface of the water. It appeared as though the dragonflies were keying in on the presence of the cattail as an indicator of open water. A second species, the roseate skimmer (Orthemis ferruginea) also laid eggs in a cattail planted pond. The nymphs of both these species are cryptic and do not climb the plant stems, preferring to crawl on the pond bottom, so it would seem unlikely that a preference for vegetation type was displayed.

For nymphs of many other species, vegetation is an important consideration for both cover and hunting. Many members of the darner family prefer to have stems and perches available to climb in and on, as do many damselflies. Submerged plants, emergent plants, and floating plants all provide cover for the nymphs. An oviposition sites for the nymphs. Emergent, border, and floating plants provide perches and territories to guard for the adults. Semi-aquatic or even partially submerged terrestrial grasses are excellent sites for oviposition by many of the damselflies. Filamentous algae even has its use as habitat for nymphs of the smaller species.

The type of bottom in the pond also determines which nymphs survive. Many species of skimmers are at home on a sandy or rocky bottom, especially in shallow water. However, most of the clubtails prefer a soft mud bottom as the nymphs remain buried for most of their life.

Coexistence with other pond dwellers

Dragonflies are an ancient group and have learned how to cope with most other pond and wetland species. The backyard water garden, however, can be an artificial habitat and there are some points of consideration. Fish are probably the major predator of dragonfly and damselfly nymphs. To cope with this, the nymphs have evolved protective coloration and stealthy habits. Still, a pond full of fish will be able to eat a large number of nymphs if they are not given cover. Dense vegetation and shallow water are two sources of protection that can help. Having small fish is another. This can present its own problems though, in that the larger nymphs are perfectly capable of catching and eating small fish. Normally this will not be a problem, as it occurs only with the largest of nymphs and the smallest of fish. Newborn fry have a number of other predators that would be of more concern. Many goldfish are also incompatible with a mud bottom that would shelter the clubtails; the fish would soon suspend the bottom up in the water column and cloud the water.

Adult dragonflies also have many predators. Birds, frogs, spiders, robber flies, and other dragonflies are common among these. Damselflies are more susceptible due to their weak flying habits, but enough manage to survive that this is not a worry for the pond owner.

In the United States, there are two major emergence peaks of dragonflies. The first happens in the spring, the second in the summer. There are annual fluctuations as to exactly when these occur, depending on the climate, but it can often be timed by the appearance of the cast skins on plants and twigs.
Many dragonflies overwinter as nymphs in the pond, so that if it is to be drained in the winter, most of the nymphs will be lost. Healthy ponds have nymphs present all year round, so that there is always some mortality during a cleaning. However, if cleanings are done in the late spring or summer, the adults quickly repopulate the pond.

Drainings in the house

Wild dragonflies do not have to be fed. Since they are such general predators, there are always enough prey species around to suffice. If for some reason the food supply disappears, the nymphs will simply sit and wait until it comes back. Adults, being mobile, can depart for better hunting. If the nymphs are caught and kept in a (usually be told by the size of the nymph. The age of the nymph can be best to start with a nearly grown emerged adult, it would probably be able to put a name to the species found in the fauna from Kansas. One of these sites has scanned images, photographs, and distribution maps of dragonflies and damselflies found in Texas.

The Dragonfly Biodiversity Site
http://www.ups.edu/biology/museum/UPSdragonflies.html
This site contains a wealth of information and images concerning Odonata of the Pacific Northwest.

Odonata: Dragonflies and Damselflies
http://www2.southwind.net/~royb/odonata.html
Extensive information on dragonflies, specializing in the fauna from Kansas.

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Phil Alexander's dreams of a backyard pond transformed their yard.

Like so many of you, I had always dreamed of having a pond...but actually building one myself was too full of unknowns. The vision remained a 'future project' for years. With the encouragement of friends and family, however, I finally decided to build one in the spring of 1994. My five main objectives for this pond were 1) to make it large enough so that we wouldn't want a bigger one in a year or two, 2) to have a waterfall easily seen and enjoyed from within the house, 3) to have clear pond water, 4) to have a pond of easy maintenance, and above all, 5) to make the pond large enough so that we wouldn't want a bigger one in a year or two.

As it evolved, the 'large enough' pond meant swimming pool size, in this case 37 feet long, 25 feet wide, 4 feet deep, and built to hold approximately 16,000 gallons. A second, 10 feet by 8 feet pond was also added to hold approximately 3,500 gallons. This smaller pond was designed to be a part of a water garden spanning 70 feet above and for it to look natural in the landscape. In April of that year, my friend, Danny Hartt, and I began designing and constructing such a pond.

They were relicensing to meet city code, but were quoted $8,000 to completely rebuild and nat-uralize an 18-foot stream that we had already built. After studying their style and technique, I built yet another small stream and waterfall by myself. Although not up to their professional standards, we were pleased with its natural appearance.

Like most water gardeners, we wanted clear water to insure viewing the fish. In addition to using water plants as a natural control for water clarity, we also use two ultraviolet UV light systems. As you can see from the diagram of the pond's plumbing design, we opted to use one set of UV lamps at the top of each filter. These filters are very easy to maintain.

Above-ground filtration chambers (hidden behind the large pond) keep it clean and free of algae episodes. In fact, it's so clear that you can even see baby fish three feet down! Ease of maintenance became even more important over time. We started out using two external filters that performed both mechanical and biological filtration. These original filters used a down-flow filtration design — water was pumped into the top of filter, went through a series of brushes and cartridges before entering the biological media in the bottom of the filter, and then gravity-flowed back to the pond. Although they were very effective in filtering the waste from the water, they had to be cleaned weekly during the summer. This was both time-consuming and messy since the mechanical portion of each filter had to broken down to do the job. Since then, I've replaced those units with two other filtration systems, each having its own out-of-pond Sequence pump and composed of three cone-shaped chambers with bottom drains for easy periodic cleaning.

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The first chamber is a vortex
The overall landscape plan for the Alexander yard.

The Alexander yard after the pond installation.

The small stream works its way through a rock garden to eventually spill into the small pond.

Green mound junipers soften the pond's edge.

The Alexander yard after the pond installation.

A bullfrog patiently awaits the next lily bloom to open.

The third and final chamber is identical in size and content to the second chamber, but it is used primarily as the biological filter. Any remaining waste particles are trapped in the reticulated foam at the top of this chamber before the water enters the Springflo material where the bacteria live. An air stone in the bottom of the chamber supplies additional oxygen to the bacteria living on the Springflo. An effective system, no ammonia or nitrate can be measured with my water test kits. Since we covered the pond bottom with river rock, we periodically add a natural bacteria and enzyme concentrate to minimize any sludge accumulation between the rocks.

Two 1/4 horse Sequence pumps recirculate approximately 4,000 gallons per hour. As you can see from the plumbing diagram, one of them draws water from the bottom of the pond and the other from the pond's surface via a special pond skimmer. The skimmer has a large net inside that collects the leaves and seeds that fall into the pond from the surrounding trees and shrubs. (We had argued with those fallen leaves for several frustrating years. Operating like a swimming pool skimmer system, the skimmer keeps the pond surface clean and alleviates build-up of sunken organic debris.) Since I installed only one skimmer in such a large pond, supplemental surface sprays direct the bounty of floating tree leaves and seeds to the skimmer for a couple of weeks during the fall and the spring. The skimmer box also contains and hides the automatic fill-valve, fed by well water, that keeps the water level constant in the pond.

A natural looking pond was the last but most important objective for this project. First of all, we planned the pond with sweeping, natural looking curves and constructed it with rocks and large boulders, many covered with lichens or moss. With over 30 tons of rock garden to eventually spill into the small pond.

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Our pond has been featured in several articles in area newspapers and included in local garden tours over the past several years. Visitors to our backyard say that the pond looks extremely natural. We already knew our first four goals had been accomplished, but to have others affirm the achievement of our most important objective is the most gratifying. It looks natural — by design.

Phil Alexander lives in Colleyville, Texas.

What Phil would do differently:

1. He would build the pond with a bottom-fed gravity-flow filtration system. Even though his pump-fed vortex filtration system is very efficient, he feels a gravity-fed system would be even more so.

2. He would place the river rock that lines the bottom of his pond in a mortar base, as Eamonn Hughes recommends in his pond construction video, “Creating Your Own Water Gardens.” River rocks embedded in a mortar base would still give the natural appearance of a rock bottom but minimize sludge buildup beneath and between the rocks.

3. He would install more than one pond skimmer since his pond is so large.

4. He would not have added the five koi since they have grown considerably larger and are now predictably beginning to damage the underwater grasses. The goldfish in the pond, including even the large 12” ones, however, don’t appear to disturb the plants at all.